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(Rev)

FIVE-YEAR REVIEW REPORT

BALLY GROUND WATER SITE

BALLY BOROUGH, PENNSYLVANIA

Prepared by:

U.S. Environmental Protection Agency

Region III

Philadelphia, Pennsylvania

Abraham Ferdas, Director
Hazardous Site Cleanup Division

6/8/00
Date

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(Rec'd)

**U.S. Environmental Protection Agency
Region III
Hazardous Site Cleanup Division
Five-Year Review
Bally Ground Water Site
EPA ID No. PAD061105128
Bally Borough, Pennsylvania**

I. Introduction

Purpose

EPA Region III conducted this review pursuant to section 121 (c) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (CERCLA), 42 U.S.C § 9621 (c); section 300.400(f)(4)(ii) of the National Oil and Hazardous Substances Pollution Contingency Plan, 40 C.F.R. Part 300 (as amended); and OSWER Directives 9355.7-02 (May 23, 1991), 9355.7-02A (July 26, 1994), and 9355.7-03A (December 21, 1995). It is a statutory review. This is the second five-year review for this site.

The purpose of a five-year review is to ensure that a remedial action remains protective of public health and the environment and is functioning as designed. This document will become part of the Site file.

Site History and Characteristics

The Bally Site consists of the Borough of Bally well field, located off Route 100 in Berks County, Pennsylvania. The Bally well field, along with a spring located northwest of the site, is the public drinking water source for the Borough of Bally. Well No. 3 in Bally's system was initially found to be contaminated with up to 4,000 parts per billion (ppb) total volatile organic compounds (VOCs) from an unknown source. A number of other wells, including industrial, domestic, and monitoring wells and another municipal well (No. 1), were sampled and found to be contaminated.

According to the preliminary information developed by EPA and the Pennsylvania Department of Environmental Resources (now the Pennsylvania Department of Environmental Protection), the source was tentatively identified as being on the property of Bally Engineered Structures, Inc. (BES). The plant had been in operation approximately 1,000 feet south of the Municipal Well No. 3 since the early 1930's. Bally Case and Cooler Company (BCC), the original plant owners, produced urethane insulated, metal skinned panels for use in the construction of walk-in coolers, freezers and refrigerated buildings. BCC was bought out in 1972 by Sunbeam Corporation, and was later renamed Bally Engineered Structures (BES).

A groundwater monitoring well located adjacent to the production complex was also heavily contaminated with 1,1,1-trichloroethane (TCA) and trichloroethylene (TCE). Solvents containing the contaminants found in Municipal Well No. 3 and in the Bally Engineered Structures well were used by BCC in the past. Waste disposal allegedly occurred on site until the mid-1960s. Three lagoons on site were reportedly used in the past for waste disposal until they were backfilled and used for vehicular parking. The lagoon areas are at present covered by the plant buildings. In the time period 1987 - 1989, BES was using solvents containing TCA, methanol, toluene, and TCE and methylene chloride in its manufacturing processes.

From December 1982 until March 1987, the Borough did not use Municipal Well No.3 for water supply, but periodically pumped the well, discharging to a nearby pond, in an effort to contain the contaminant plume. Pilot testing of an air stripper for use on the well to remediate the groundwater contamination was begun on March 12, 1987.

In 1987, EPA entered into a Consent Order with Bally Engineered Structures, Inc. a potentially responsible party for contamination at the site, to conduct a study on the nature and extent of contamination at the site and alternative technologies for cleanup. BES conducted a Remedial Investigation (RI) in 1988 which confirmed the property as a source of the observed contamination. This study was completed in 1989.

II. Discussion of Remedial Objectives

On June 30, 1989, the Regional Administrator signed a Record of Decision (ROD) documenting the selected remedial action for the Site. The remedial objectives listed in this ROD were to:

- Prevent current and future ingestion of ground water containing unacceptable levels of VOCs including Spring A-10 which was used as one of the sources of supply for the Municipal System
- Restore the aquifer within a reasonable time frame to a condition such that levels of the VOC contaminants of concern are below remediation levels consistent with its use as a Class II aquifer. The ROD further defines these levels as the MCLs for the various contaminants of concern.

To achieve these goals the selected remedy consisted of the following components:

1. Abandoning several existing private wells and implementing institutional controls on the use of the remaining operable private wells and the construction of new wells;
2. Performing ground water and surface water monitoring to measure how contaminant concentrations and migration are influenced by continuous pumping of Municipal Well No. 3;

3. Extracting groundwater and treating by one of the treatment options retained for consideration until contamination levels fall below Federal Maximum Contaminant Levels (MCLs) or, where an MCL is not available, to an acceptable Risk Specific Dose. Treated water from Municipal Well No. 3 will be discharged to the adjacent stream or into the Borough of Bally potable water system as needed to provide suitable alternative water supply;
4. Performing necessary additional studies in the pre-design phase to evaluate the configuration of any additional groundwater extraction well(s) required.

No action was determined to be necessary for the wastes covered by the buildings.

Air Stripper

In the interim period between the discovery of the well contamination and the issuing of the ROD, the Borough of Bally installed an air stripper on Well No. 3 to allow the Borough to continue to supply clean drinking water to their Municipal customers. This air stripper received a permit to operate from the PA Department of Environmental Resources in March 1989. Since that time, Municipal Well No. 3 has been pumped at approximately twice the volume necessary to supply all of the Municipal customers in an attempt to prevent the contaminated plume from expanding. Sunbeam (who had assumed responsibility for the Site when BES closed) had paid for the installation of the stripper as well as for pumping of the extra volume of ground water. After treatment, the extra volume is discharged into a local creek. These ongoing activities were incorporated into the 1989 ROD.

Institutional Controls

At the time the Municipal water service was constructed, Bally Borough passed an ordinance requiring all residents and businesses to connect to and use the service. There were, therefore, no ground water wells being used for drinking water purposes at the time the ROD was written. Bally Borough also passed an additional ordinance mandating that no new well could be drilled without Borough approval.

Additional Extraction Wells

Initial pre-design studies, begun late in 1991, indicated that installation of an additional extraction well (and possibly an additional treatment unit) was likely to be necessary in the area of Bally Borough south of Route 100. Long-term site cleanup activities were expected to begin in late 1995, following the completion of the design but were delayed due to a problem gaining access to the necessary private property.

In the period during the access problems, Sunbeam conducted regular quarterly monitoring of the ground water. After three years of this monitoring they believed that the data showed that the over-pumping of Well No. 3 was capturing the entire plume and an additional extraction well

was not necessary. When the access problems were finally resolved, EPA allowed Sunbeam to install a pair of monitoring wells to gather information on whether additional extraction wells were needed in the area South of Route 100.

In September 1998, Sunbeam installed a shallow and a deep monitoring well in the location previously designated for the additional extraction wells. As part of the regular quarterly monitoring of all of the monitoring wells, samples were taken from the two newly installed wells. The results of these samples showed no VOCs in the new wells over the cleanup limits specified in the ROD. In addition, one of the older wells showed a reduction in VOCs to levels below the ROD-specified limits. VOC levels in the remaining wells showed some fluctuations over time, but, while remaining above the ROD specified limits, did not appear to be increasing.

Based on this new round of sampling, EPA determined that installation of the additional extraction wells and air stripper were not necessary. This determination was in accordance with the selected remedy in the ROD which, in part, called for evaluating the configuration of any new extraction wells required. No further Remedial Actions are necessary at this Site, although Municipal Well No. 3 will continue to be pumped at its present rate until cleanup goals are achieved. Ground water monitoring will continue during that time period, as well.

III. Significant Issues

On March 26, 1999, EPA issued a formal determination, in accordance with the ROD, that no additional extraction wells were necessary in the area south of Route 100 in Bally Borough. This determination was issued in the form of a letter to Sunbeam.

An agreement of sale has been signed for the purchase of the Bally Engineered Structures property in Bally, PA. The prospective buyers have contacted EPA and have requested a Prospective Purchasers Agreement for this Site. They intend to rent out the onsite buildings to commercial and industrial clients. The prospective buyers are maintaining the buildings until the sale can be completed.

Site Visit Performed to Assess the Effectiveness of the OU1 Remedy

A Site visit to the Bally Ground Water Site took place on April 13, 2000. In attendance was EPA Remedial Project Manager, Richard Watman, accompanied by Robert Valli and Thomas Maher, both of Civil & Environmental Consultants, Inc., consultants to Sunbeam.

The building and grounds of the former BES property were visited as well as the ground water well and air stripper facility. The former BES building has been deteriorating since it became unoccupied and maintenance stopped being performed. However, it was noticed during the Site visit that the potential new owners had made improvements to portions of the exterior of the buildings and the grounds as part of the desire to attract commercial/industrial clients to rent space in the building. The potential owner has also expressed the intention to fix the roof.

The air stripper is surrounded by a ten-foot chain-link fence and there were no signs of vandalism. The air stripper is not enclosed in a building and is exposed to the elements. It had

suffered some superficial damage over the winter, mostly from ice having formed on the outlet of the stripper, breaking off and damaging the exterior insulation and a sight glass used for checking water levels in the air stripper sump. Neither of these incidents disrupted the operation of the stripper. Repairs are planned prior to next winter.

IV. Conclusions And Recommendations

The remedy continues to operate in conformance with the 1989 ROD. The following recommendations are made:

- A. Continue biannual ground water monitoring as per the sampling plan approved by EPA on June 7, 1999.
- B. Continue the monthly monitoring of the drinking water provided by the Bally Municipal Water Authority through the air stripper facility.
- C. Complete the minor repairs described above before next winter.

V. Statement on Protectiveness

The remedy is protective of human health and the environment. The remedial objectives for the Site were to contain the plume, reduce the mass and concentration of the contaminants, and remediate Spring A-10.

The groundwater treatment system is operating and functioning as designed and the plume is being contained. The VOCs are being removed from the groundwater and the concentrations being discharged to the municipal system are of drinking water quality. Contamination has not been completely remediated and treatment still needs to continue until groundwater on Site is at levels consistent with the MCLs for the various contaminants of concern.

DECLARATION FOR THE RECORD OF DECISION

SITE NAME AND LOCATION

Bally Groundwater Contamination Site
Borough of Bally, Berks County, Pennsylvania

Statement of Purpose

This decision document presents the selected remedial action for the Bally Groundwater Contamination Superfund Site (Site) developed in accordance with the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986 (CERCLA), 42 U.S.C. Section 9601 et seq., and to the extent practicable, the National Contingency Plan (NCP), 40 C.F. R. Part 300.

Statement of Basis

This decision is based upon and documented in the contents of the Administrative Record. The attached index identifies the items which comprise the Administrative Record. The Commonwealth of Pennsylvania has reviewed, commented and concurred on this Record of Decision.

Description of the Selected Remedy

The remedial alternative presented in this document is the permanent remedy for resolving the groundwater contamination at the Site. This remedy is comprised of the following components:

1. Abandoning appropriate existing private wells and implementing institutional controls on the use of operable private wells and the construction of new wells;
2. Performing groundwater and surface water monitoring to measure contaminant concentrations and migrations by removing contaminated groundwater from the aquifer through continuous pumping of Municipal Well No. 3;
3. Treating the extracted groundwater by one of the treatment options retained for consideration and discharging the treated water from Municipal Well No. 3 to the adjacent stream or into the Borough of Bally potable water system as needed to provide suitable alternative water supply;
4. Performing necessary additional studies in the pre-design phase to evaluate the configuration of any additional groundwater extraction well(s) required.

Declaration

The selected remedy is protective of human health and environment, attains Federal and State requirements that are applicable or relevant and appropriate and is cost-effective as set forth in Section 121(d) of CERCLA, 42 U.S.C.

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Section 9621(d). This remedy satisfies the statutory preferences as set forth in Section 121(b) of CERCLA, 42 U.S.C. Section 9621(b), for remedies that employ treatment that reduce toxicity, mobility or volume as a principal element. After extensive studies it has been concluded that a specific source of contamination was not found. Although a specific contamination source area was not identified, the shallow ground water contamination plume had the highest concentration of contaminants. The aquifer contamination is attributed to a historic release with no discernible current source. Finally, it is determined that this remedy utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable.

This is a permanent remedy and will be reevaluated within five years of the completed remedial action in accordance with the NCP.

6/30/89
Date

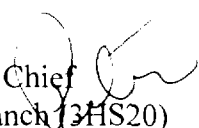
Edwin B. Erickson
Edwin B. Erickson
Regional Administrator

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

ORIGINAL
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SUBJECT: Five Year Review for the Bally Ground Water Superfund Site

FROM: Peter Schaul, Chief 
Remedial Branch (3HS20)

TO: Abraham Ferdas, Director
Hazardous Site Control Division (3HS00)

Enclosed please find a Five Year Review for the Bally Ground Water Superfund Site in Bally, Berks County, Pennsylvania. The remedy continues to be protective of human health and the environment. The review recommends continuing both the biannual ground water monitoring and the monthly monitoring of the drinking water provided by the Bally Municipal Water Authority.

I recommend that you sign this Five Year Review report.

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CONCURRENCES

| SYMBOL | 3HS22 | 3HS22 | 3HS20 | | | | | |
|---------|--------|---------|--------|--|--|--|--|--|
| SURNAME | Watman | Crystal | Graham | | | | | |
| DATE | 5/1/77 | 5/1/77 | 6/1/77 | | | | | |